

WHAT IS CLAIMED IS:

1. Tobacco leaf in a condition of having been contacted with a wash solution comprising an aqueous solution of a carbonate or bicarbonate salt and in a further condition of having been subsequently air cured.
- 5 2. The leaf as claimed in Claim 1, wherein further cured condition is established within a time period of four weeks or less.
3. The leaf as claimed in Claim 2, wherein said leaf exhibits a reduced amount of tobacco-specific nitrosamines as compared to an air cured tobacco leaf of a same type but without said contacted condition and said further condition.
- 10 4. The leaf as claimed in Claim 3, wherein said cured condition is established within three weeks.
5. The leaf as claimed in Claim 3, wherein said leaf is destemmed.
6. The leaf as claimed in Claim 1, wherein the bicarbonate salt comprises one or more of sodium bicarbonate, ammonium bicarbonate or potassium bicarbonate
15 or the carbonate salt comprises one or more of sodium carbonate, ammonium carbonate or potassium carbonate.
7. In a process of air-curing tobacco leaves, the improvement comprising reducing air-curing time by treating the tobacco leaves with an alkaline curing accelerating agent.
- 20 8. The process according to Claim 7, wherein the treating step comprises treating the leaves with a solution containing bicarbonate and/or carbonate anion.

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9. The process according to Claim 7, wherein said curing accelerating agent comprises an aqueous solution containing a bicarbonate and/or a carbonate salt, said bicarbonate salt comprising one or more of sodium bicarbonate, ammonium bicarbonate or potassium bicarbonate or the carbonate salt comprises one or more of sodium carbonate, ammonium carbonate or potassium carbonate.

10. The process of Claim 8, wherein said drying step includes the step of reducing moisture content of the darkened tobacco portion to a preselected, final moisture content in the range of 10 to 30%.

11. The process of Claim 10, wherein said drying step being initiated and completed within 7 days.

12. The process according to Claim 10, further comprising the steps of selectively stripping brown leaves from an air-cured tobacco plant during the air-curing, the method further comprising drying the primed leaves apart from remaining leaves on the plant.

13. The process according to Claim 10, wherein brown leaves are primed from an air-cured tobacco plant during the air-curing, the method further comprising drying the primed leaves after removing midveins of the primed leaves.

14. The process according to Claim 11, wherein the air-curing is completed before substantial growth of bacteria on and/or production of TSNA's by the leaves.

15. A method of accelerating the coloring of tobacco during a curing process, said method comprising the steps of:

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spraying a tobacco with aqueous solution of a carbonate or bicarbonate salt;
and

drying said sprayed tobacco into a cured condition, whereby time required
to yellow said tobacco is reduced.

5 16. The method as claimed in Claim 15, wherein said drying step includes
placing said tobacco in an arrangement to effect air curing, said spraying step
includes spraying said tobacco prior to said placing step.

10 17. The method as claimed in Claim 16, further comprising the step of
allowing the sprayed solution to at least partially dry on surfaces of said tobacco
prior to said placing step.

15 18. The method as claimed in Claim 17, wherein said drying step includes a
fixing step of contacting said tobacco with dry air so as to establish a final cured
condition of said tobacco, said fixing step being executed subsequent of said time
required to yellow said tobacco, said fixing step being completed within seven
days.

19. A process of converting green tobacco into smokable material, said process
comprising the steps of:

20 initiating an air-curing treatment of green tobacco leaves, said air-curing
treatment including the steps of transforming said green tobacco into a yellowed
condition and the step of further transforming said tobacco into a darkened
condition;

 proximate in time to said initiating step, treating said tobacco with an
alkaline curing-accelerating agent;

 separating darkened tobacco leaves from yellowed tobacco leaves; and

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proximate in time to said separating step, drying said separated, darkened tobacco leaves;

repeating said further transforming, separating and drying steps upon remaining yellowed tobacco leaves.

5 20. The process of Claim 19, wherein said drying step includes the step of reducing moisture content of the darkened tobacco portion to a preselected, final moisture content such that said dried tobacco does not support microbial activity.

10 21. The process of Claim 20, wherein said drying step includes the step of reducing moisture content of the darkened tobacco portion to a preselected, final moisture content in the range of 10 to 30%.

22. The process of Claim 21, wherein said drying step is completed within seven days.

23. The process of Claim 20, wherein said method further comprises the step of destemming said separated, darkened tobacco portion.

15 24. The process of Claim 20, wherein said curing-accelerating agent comprises a wash solution comprising a bicarbonate salt and/or carbonate salt.

25. The process of Claim 20, wherein said tobacco is burley.

20 26. A method of treating tobacco leaves to effect curing comprising treating the leaves with an alkaline curing-accelerating agent, yellowing the leaves, browning the leaves and separately drying the browned leaves from remaining leaves.

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27. The method of Claim 64, wherein said curing-accelerating agent comprises a carbonate and/or bicarbonate salt.

28. A cured tobacco leaf in a condition of having been contacted with a wash solution comprising a disinfectant and a solvent such that said leaf is with a reduced amount of tobacco-specific nitrosamines as compared to cured unprocessed tobacco leaf of a same type.

29. The tobacco leaf of Claim 28, wherein the tobacco leaf is flue-cured tobacco.

30. The tobacco leaf of Claim 28, wherein the tobacco leaf is an air-cured tobacco.

31. The tobacco leaf of Claim 30, wherein the wash solution further comprises a surfactant.

32. The tobacco leaf of Claim 30, wherein the solvent is water or a polar organic solvent.

33. The tobacco leaf of Claim 30, wherein the disinfectant comprises one or more of a chlorine-containing compound, peroxide, a low molecular weight alcohol or a derivative thereof.

34. The tobacco leaf of Claim 33, wherein the chlorine-containing compound comprises one or more of chlorine dioxide, sodium hypochlorite or sodium chlorite.

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35. The tobacco leaf of Claim 33, wherein the low molecular weight alcohol comprises one or more of methanol, ethanol or propanol.

36. A method of reducing tobacco-specific nitrosamines and bacterial endotoxins from a harvested tobacco leaf before or during curing comprising:

5 washing the surface of the tobacco leaf with an effective amount of a wash solution to reduce tobacco-specific nitrosamines and bacterial endotoxins.

37. The method of Claim 36, wherein the washing occurs at least twice before completion of curing.

38. The method of Claim 36, wherein the tobacco leaf is a green leaf or a
10 partially cured leaf.

39. The method of Claim 36, wherein the curing comprises flue-curing wherein the leaves are heated using a heat exchanger.

40. The method of Claim 36, wherein the wash solution comprises a disinfectant dissolved or dispersed in a solvent.

15 41. The method of Claim 40, wherein the wash solution further comprises a surfactant.

42. The method of Claim 40, wherein the solvent is water or a polar organic solvent.

20 43. The method of Claim 40, wherein the disinfectant comprises one or more of a chlorine-containing compound, peroxide, a low molecular weight alcohol, a quaternary ammonium compound, or a derivative thereof.

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44. The method of Claim 43, wherein the chlorine containing compound comprises one or more of chlorine dioxide, sodium hypochlorite or sodium chlorite.
- 5 45. The method of Claim 43, wherein the low molecular weight alcohol comprises one or more of methanol, ethanol or propanol.
46. The method of Claim 36, further comprising rinsing the washed tobacco leaf with water.
47. The method of Claim 36, wherein the wash solution is at a temperature of from about 0°C to 55°C.
- 10 48. The method of Claim 47, wherein the wash solution is at a temperature of from about 25°C to 55°C.
49. The method of Claim 36, wherein the wash solution consists essentially of water heated to a temperature from about 25°C to 55°C.
- 15 50. The method of Claim 49, wherein the wash solution consists essentially of water heated to a temperature from about 25°C to 55°C.
51. The method of Claim 36, wherein washing the surface of the tobacco leaf further comprises agitating the tobacco leaf in one or more directions.
52. The method of Claim 36, wherein washing the surface of the tobacco leaf comprises one or more of spraying, rinsing or submerging the harvested tobacco leaf in the wash solution.
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53. The method of Claim 52, wherein washing the surface of the tobacco leaf comprises submerging the tobacco leaf in the wash solution for at least about 10 minutes.

5 54. The method of Claim 52, wherein washing the surface of the tobacco leaf comprises rinsing or spraying the surface of the tobacco leaf with the wash solution such that the wash solution runs freely from the surface of the tobacco leaf.

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